

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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Cont.

1. (Canceled) An internal compression supersonic aircraft inlet comprising: an internal duct having an opening for receiving airflow and a throat section, said internal duct having one or more internal compression surfaces wherein substantially all of the compression of said airflow takes place within said inlet internal duct, said throat section of the inlet further incorporating a shock stability bleed system having one or more bleed passageways, wherein a portion of said airflow is removed from said internal duct through said one or more bleed passageways so that an airflow shock wave is maintained within said throat section.

2. (Canceled) An inlet according to claim 1 wherein said shock stability bleed system further comprises bleed passages having a variable area exit.

3. (Canceled) An inlet according to claim 1 wherein said throat section of said inlet further comprises movable sidewalls in the throat section for varying the throat area.

4. (Canceled) An inlet according to claim 1 wherein said internal duct has a rectangular cross-section.

5. (Canceled) An inlet according to claim 1 wherein the internal compression surfaces of said inlet duct are shaped to produce isentropic compression of the airflow.

6. (Canceled) An inlet according to claim 1, wherein said inlet further comprises exterior surfaces having a rectangular cross-section.

7. (Canceled) An inlet according to claim 1 wherein said inlet further comprises external surfaces that are aligned with the flow of air to the inlet.

8. (Canceled) An inlet according to claim 6 wherein said external surfaces are substantially parallel to the flow of air to the inlet.

9-11. Canceled.

12. (Canceled) The inlet of claim 1 wherein the interior surfaces of the internal duct further comprise a plurality of compression angled surfaces.

13. (Canceled) The inlet of claim 1 wherein said shock stability bleed system further comprises bleed passages having a fixed area exit.

14. (Canceled) An inlet according to claim 1 wherein said internal duct has an axi-symmetric cross-section.

15. (Canceled) An inlet according to claim 1 wherein said inlet further comprises exterior surfaces having a rectangular cross-section which transition to a round nacelle.

16. (Canceled) An inlet according to claim 1 wherein a portion of the interior surfaces of the internal duct have porous surfaces.

17. (Canceled) An inlet according to claim 1 wherein the interior surfaces of the internal duct have continuous surfaces from the opening to the exit of the inlet.

18. (Amended) A supersonic inlet for use with an aircraft, said supersonic inlet comprising:

an internal duct having an opening for receiving airflow and a throat section, [said internal duct having one or more internal compression surfaces wherein substantially all of the compression of said airflow takes place within said inlet duct,]

said inlet further comprising one or more external surfaces wherein said one or more external surfaces are substantially aligned with the flow of the aircraft, said opening of said internal duct further comprised of a first and second leading edge, wherein said leading edges are staggered in

location;

said throat section of the inlet further incorporating a shock stability bleed system, wherein a portion of said airflow is removed from said internal duct so that a shock wave is maintained within said throat section.

19. (Amended) A supersonic inlet for use with an aircraft, said supersonic inlet comprising:

an internal duct having an opening for receiving airflow and a throat section, said [internal duct] inlet having one or more external [internal compression] surfaces [wherein substantially all of the compression] substantially aligned with the airflow of said aircraft [of said airflow takes place within said inlet duct,]

a centerbody positioned within said duct and having a leading edge;

said opening of said internal duct further comprised of a leading edge, wherein said leading edge of said duct is staggered in location with respect to the leading edge of the centerbody; and
said throat section of the inlet further includes a shock stability bleed system, wherein a portion of said airflow is removed from said internal duct so that a shock wave is maintained within said throat section.

20. (new) The inlet of claim 18 wherein all of the external surfaces are substantially aligned with the airflow of the aircraft.

21. (new) The inlet of claim 18 wherein one or more of the external surfaces are substantially aligned with the airflow of the aircraft at all operating conditions.

22. (new) The inlet of claim 18 wherein said internal duct comprises one or more movable compression surfaces.

23. The inlet of claim 18 wherein said one or more external compression surfaces are fixed in location.

24. (new) The inlet of claim 19 wherein all of the external surfaces are substantially aligned with the airflow of the aircraft.

25. (new) The inlet of claim 19 wherein one or more of the external surfaces are substantially aligned with the airflow of the aircraft at all operating conditions.

26. (new) The inlet of claim 19 wherein said internal duct comprises one or more movable compression surfaces.

27. (new) The inlet of claim 19 wherein said one or more external compression surfaces are fixed in location.

28. (new) A low boom supersonic inlet for use with an aircraft engine, the supersonic inlet comprising: one or more internal surfaces forming an internal duct to provide airflow to the aircraft engine and having an opening for receiving airflow, and one or more external surfaces that are substantially aligned with the flow of air to the inlet whereby the inlet external shock waves that contribute to the sonic boom signature of the aircraft have been substantially reduced.

29. (new) The low sonic boom supersonic inlet of claim 28 wherein said internal surfaces provide supersonic compression and are movable into two or more positions.

30. (new) The low sonic boom supersonic inlet of claim 28 wherein said internal surfaces extend from the leading edge to the engine entrance, said internal surfaces comprising one or

more compression surfaces for providing supersonic compression of the air to the inlet throat and subsonic diffusion of the air to the engine entrance.

31. (new) The low sonic boom supersonic inlet of claim 28 wherein said internal duct further comprises a throat section having a shock stability bleed system comprised of one or more bleed passageways wherein a portion of said airflow is removed from said internal duct through said one or more bleed passageways so that an airflow shock wave is maintained within said throat region.

32. (new) The low sonic boom supersonic inlet of claim 28 wherein all of the compression surfaces are located within said internal duct.

33. (new) The low sonic boom supersonic inlet of claim 32 wherein excess air not required by the engine is ducted out of the inlet through an overboard bypass system.

34. (new) The low sonic boom supersonic inlet of claim 28 wherein said internal duct has a rectangular cross-sectional shape.

35. (new) The low sonic boom supersonic inlet of claim 28 wherein said internal duct has a elliptical cross-sectional shape.

36. (new) The low sonic boom supersonic inlet of claim 18 wherein said internal duct has a rectangular cross-sectional shape.

37. (new) The low sonic boom supersonic inlet of claim 18 wherein said internal duct has a elliptical cross-sectional shape.

38. (new) The low sonic boom supersonic inlet of claim 19 wherein said internal duct has a rectangular cross-sectional shape.

39. (new) The low sonic boom supersonic inlet of claim 19 wherein said internal duct has a elliptical cross-sectional shape.

40. (new) The low sonic boom supersonic inlet of claim 18 wherein said shock stability bleed system further comprises bleed passages having a variable area exit.

41. (new) The low sonic boom supersonic inlet of claim 18 wherein said throat section of said inlet further comprises one or more movable internal sidewalls in the throat section for varying the throat area.

42. (new) The low sonic boom supersonic inlet of claim 18 wherein the interior surfaces of the internal duct have continuous surfaces from the opening to the exit of the inlet.